

CLAIMS

1. Catalyst for selective hydrodesulfurization of hydrocarbon feedstocks that comprise sulfur-containing compounds and olefins, comprising a substrate that is selected from among the refractory oxides, at least one metal that is selected from the group that consists of the metals of groups VI and VIII of the periodic table and carbon, characterized in that the carbon content is less than or equal to 2.8% by weight and in that the catalyst is in a sulfide form.
2. Catalyst according to claim 1, wherein the carbon content is between 0.5 and 2.6% by weight.
3. Catalyst according to one of claims 1 or 2, wherein the overall sulfur content in said catalyst is between 60 and 140% of the sulfur content that is necessary for the total sulfurization of all of the metals of said catalyst belonging to groups VI and VIII.
4. Catalyst according to any of claims 1 to 3, wherein the specific surface area of the substrate is less than 200 m²/g.
5. Catalyst according to any of claims 1 to 4, wherein the metal of group VI is selected from the group that consists of molybdenum and tungsten, and the metal of group VIII is selected from the group that consists of nickel and cobalt.
6. Method for the production of catalysts for selective hydrodesulfurization of hydrocarbon-containing feedstocks that comprise sulfur-containing compounds and olefins, comprising:

- A stage for impregnation of metals of groups VI and/or VIII on a substrate,
- An activation stage that is a sulfurization stage that is carried out by contact with a gas that comprises hydrogen and hydrogen sulfide, and
- A stage for deposition of carbon by contact with at least one hydrocarbon-containing compound, so as to deposit an amount of carbon that is less than or equal to 2.8% by weight relative to the mass of catalyst.

7. Method according to claim 6, wherein the stage for deposition of carbon is carried out during the activation stage.

8. Method according to claim 6, wherein the stage for deposition of carbon is carried out at the same time as the impregnation of metals of groups VI and/or VIII by depositing a precursor that contains carbon at the time of impregnation of the metals of groups VI and/or VIII.

9. Process for the selective hydrodesulfurization of feedstocks that comprise sulfur-containing compounds and olefins, using the catalyst according to any of claims 1 to 5 or the catalyst that is obtained from the method according to any one of claims 6 to 8.

10. Process according to claim 9, wherein the feedstock comprises a gasoline fraction that is obtained from a catalytic cracking unit that typically extends from hydrocarbons with 5 carbon atoms to compounds that have a boiling point of approximately 250°C.